

FUNDING WIRELESS E911 IN WASHINGTON STATE

INTRODUCTION

The only potential wireless E911 revenue source is the county wireless E911 tax. In the large urban counties, the revenues from this tax are used directly to offset the operational impact of wireless calls to the PSAPs and are not available for wireless E911 service. In the small counties, the revenues from the county tax are not adequate to pay for wireless E911 service and are currently being used to help fund the PSAP operations, which include answering wireless 911 calls. The PSAPs are not able to request Phase I service because they cannot afford to pay for it with current resources. Consequently, it is necessary to develop a new funding mechanism that would produce adequate revenue to fund wireless E911 service in rural and urban counties. Chapter 7 explains the funding options the workgroup examined and includes:

- A. Characteristics of a Wireless E911 Funding Mechanism
- B. Funding Wireless E911 Without a Tax
- C. Funding Wireless E911 With a Tax

A. CHARACTERISTICS OF A WIRELESS E911 FUNDING MECHANISM

From a public policy perspective, a wireless E911 funding mechanism has to fund an essential public safety service to wireless customers. To insure that the funding mechanism meets well-recognized public policy objectives, the major tax principles listed below should be incorporated into the funding mechanism as much as possible.

Equity: Taxpayers in similar situations should be treated similarly.

Stability: Revenue collections should not fluctuate dramatically and receipts should be relatively easy to forecast.

Economic Neutrality: The funding mechanism should have minimal influence on business decisions or consumer choices.

Productivity: The funding mechanism should raise adequate revenue to pay for the service.

Flexibility: The funding mechanism should permit the Legislature and local officials to respond to change and the need to pay for different expenditure levels.

Simplicity: The tax should minimize taxpayers' administrative costs of compliance and governmental costs of collection.

B. FUNDING WIRELESS E911 WITHOUT A TAX

Given the lack of cost data to calculate a tax rate, the study group discussed an option that has been considered but not adopted in other states. This option is called "bill and keep." With this option, wireless carriers bill their own subscribers for the carriers' costs to provide the wireless E911 service. The wireless carriers collect the revenues from their subscribers to pay for their E911 service costs.

The policy rationale for this option is fourfold. The wireless carriers can determine the charges to their subscribers based on actual costs. The wireless carriers do not have to share proprietary information about subscriber counts or costs. The carriers have the flexibility to change the charge if costs change. It is administratively simple for government agencies and wireless carriers because it does not require any tax administration on the part of the government agencies or cost recovery oversight to disburse revenues.

The study group identified the following advantages to the bill and keep option:

- Wireless E911 customers in urban and rural counties will get Phase I service.
- The wireless carriers' cost recovery mechanism is in place for Phase I and Phase II service.
- The wireless carriers will have incentive to keep the costs for E911 service that are put on the bill as low as possible. This may result in lower costs for E911 service than would occur with guaranteed revenue from a tax.
- The government is not paying for Phase II location system services that can be sold for other purposes.

The study group identified the following disadvantages to the bill and keep option:

- It is not economically neutral. The larger wireless carriers may be able to charge a lower amount per subscriber for the wireless E911 service than the smaller carriers

because the larger carriers can spread their costs over a larger base of subscribers. Subscribers may switch carriers based on the differences that the 911 charge makes in the total monthly bill.

- The charge for public safety service becomes a competitive issue. Wireless carriers could compete for subscribers by charging the lowest price for 911 service and this may compromise the quality of 911 service.
- The counties may not have the leverage to regulate quality of service and standards such as uniform technical interface. There may be varying grades of service depending on the wireless carrier.
- There is no consumer protection.
- This option provides no funding for PSAP equipment for Phase II.
- The 911 cost recovery charge on the customer bill is subject to Retail Sales Tax and City Utility taxes and will increase the total tax burden of the wireless customer unless the authorizing legislation exempts these charges.
- This option may create short-term problems with wireless carriers' customer contracts because many contracts between the carrier and the customer contain language that prohibits the carrier from adding charges. The E911 charge could not be added until a new contract was signed. The carriers would have to absorb the costs until the new contract was signed or the costs would have to be spread over all new customers and renewals which may result in higher charges.
- The option is subject to FCC preemption and litigation. There is currently a petition from the Cellular Telecommunications Industry (CTIA) requesting the FCC not to allow "bill and keep" as a funding mechanism. The FCC has not as yet acted on the CTIA petition.

Although the bill and keep option is administratively feasible, flexible, and does have appeal in the absence of costs to calculate a tax rate, it is not economically neutral. If one carrier competes on the E911 charge, the other carriers may have to follow suit to remain competitive. The carriers may then have competitive incentives to cut costs in the provision of E911 service. This could result in varying levels of funding for wireless E911. The study group agrees that stable funding for wireless E911 is essential to maintain not only consistent service quality for wireless E911 callers but the overall quality of public safety response in the state. The bill and keep option does not guarantee that there will be a stable funding source for wireless E911 and for that reason it is not the best funding mechanism for wireless E911.

C. FUNDING WIRELESS E911 WITH A TAX

Funding wireless E911 with a tax offers the following advantages:

- It is most likely to provide an adequate and stable source of revenue to pay for wireless E911 costs.
- All wireless subscribers pay the same rate so that it is equitable to the subscriber and not a competitive factor for the carrier.
- The Legislature and local officials have the ability respond to change or the need for different expenditure levels by adjusting the tax rate if necessary.

Funding wireless E911 with a tax presents the following disadvantages:

- It is difficult to get a new tax passed in Washington State. In 1993, the citizens approved Initiative 601 which requires a two-thirds vote of the Washington State House of Representatives and the Washington State Senate to pass a tax.
- It is difficult to calculate a tax rate that produces no more and no less revenue than that which is necessary, without the estimated costs to actually implement the service.
- A tax requires a high level of accountability and oversight for fund disbursement. This will require that wireless carriers submit data on actual costs to implement the wireless E911 service. Other states have had difficulty getting actual cost data from the carriers in those states, which are not necessarily the same carriers in this state. The Department does not know if this would be a problem in Washington State.
- A tax requires resources for administrative expenditures on the part of the government agencies and the wireless carriers.

THE STRUCTURE OF A TAX

Every tax consists of the following basic components:

- The purpose for which the tax is being imposed.
- The level of government imposing the tax—whether it is a state or local tax.
- The measure of the tax. This is the tax base.
- The tax rate.

- How frequently the tax will be paid.
- If the tax will be deposited in a special account.
- The effective date of the tax which is the first day that the tax is imposed.
- General tax administration provisions such as who will collect the tax, where it will be remitted, penalties for non-payment, the authority to audit those remitting the tax to assure that the correct amount is paid, etc.

STRUCTURING A WIRELESS E911 TAX FOR WASHINGTON STATE

The workgroup designed a tax for wireless E911 in Washington State by incorporating the components of a tax discussed above. They agreed that the tax should be:

- **A dedicated tax to fund wireless E911.** The dedicated source of revenue is necessary to insure adequate and stable funding for wireless E911.
- **Able to fund Phase I service at this time.**
- **A state tax.** A state tax is more productive than a county tax because it would raise adequate revenue to pay for the service in rural and urban areas. A county tax would produce adequate revenue in the urban counties but not in the rural counties. This would result in the rural counties not having the funding to pay the wireless carriers in their counties the costs to implement and operate wireless E911 service.
- **Imposed on radio access lines.** The tax base should be the users of the service.
- **Paid monthly.** This is the same frequency as the county wireless E911 tax.
- **Deposited in a separate account in the Treasury for wireless E911 tax revenues and dispersed by the Treasurer.** The wireless E911 tax revenues should be separated from the wireline E911 revenues because they have different funding purposes. The wireless E911 revenues are to fund wireless E911 service in all the counties. The wireline E911 revenues are currently being used to finish the implementation of wireline E911 statewide and fund the ongoing operation of wireline E911 in counties that qualify for state financial assistance.
- **Collected by the wireless carriers and remitted to the Department of Revenue.** As of January 1, 1999, the Department of Revenue is responsible for administering the state E911 tax on switched access lines (wireline phones). It is appropriate that the Department of Revenue also administer a state tax on radio access lines.

Some members of the workgroup would like to have the interest generated by the dedicated E911 wireless account remain in the account. Legislative authorization would be required if the wireless E911 account were to retain earned interest.

The study group did not discuss the effective date. Typically a state tax that is remitted to the Department of Revenue becomes effective on July 1 which is the first day of the quarter after the legislative session ends. This allows the Department time after the Governor signs the bill to implement the internal tax administration changes necessary to administer the tax and to notify the companies who will be collecting and remitting the tax about the specifics of the legislation.

The study group did not reach agreement on the following items pertaining to the tax:

- **If the tax rate should be initially be set at a level that would cover Phase I costs and build an adequate fund to pay for the wireless portion of the PSAP equipment upgrades for Phase II.**
- **Calculation of the tax rate.**

Some study group members are concerned that it will take several years to collect enough revenue to upgrade PSAP equipment for Phase II. If the revenues are not collected in advance, the PSAPs will not have adequate funds to purchase the upgrades and this will delay Phase II implementation.

Other study group members expressed concern that if the tax rate were set now, it would be based on the equipment replacement estimates for this study. Though the estimate for this study was very well researched, it was based on 1998 costs that may change. Also there were some assumptions that had to be made that could change as a result of technological changes or consolidation or regionalization of PSAPs. Consequently, this estimate may be high and this would result in a greater tax burden on the wireless subscriber than will be actually necessary to pay for the wireless carriers' portion of equipment replacement costs.

The wireless carriers and the Department, along with other study group members, disagree on how to determine the appropriate state tax rate for Phase I.

The wireless carriers propose that the state tax rate be set based on national cost data that was submitted by the wireless carriers for this report. The national cost data submitted in this report indicates that the tax rate needed to generate enough revenue for carriers to initially recover both recurring and non-recurring costs for Phase I service ranges from 20 cents to no more than 33 cents per subscriber per month. The tax rate needed for wireless carriers to generate enough revenue to pay for recurring costs ranges from 15 cents to no more than 27 cents per subscriber per month. The wireless carriers are confident that if

the state tax rate is based on national cost data there will be adequate revenue to cover carrier costs for Phase I.

The Department believes that the state tax rate for E911 Phase I should be based on an estimate of the total cost to fund the program or service over time. In the case of wireless E911 service, the Department recommends that the state tax rate be based on an estimate of the total costs to actually implement and operate wireless E911 in Washington State. These costs should take into account the current number of wireless subscribers and a projected subscriber growth rate. A close monitoring of collections and analysis of actual revenues and estimates of actual cost data should be used to determine if the initial tax rate is appropriate for longer term purposes.

The tax policy concerns that the Department has with setting a rate based on the national cost data are:

- If the Legislature imposes the tax, the state and local government entities will be legally obligated to provide the service to the public regardless of the actual cost.
- Without an estimate of total Washington state Phase I costs from the wireless carriers, it is not possible to determine which tax rate to choose from the range of tax rates based on national cost data.
- Without an estimate of total Washington State Phase I costs from the wireless carriers, it is difficult to determine if the tax rate that is chosen is adequate or if it provides too much revenue.
- Without an estimate of costs to actually implement and operate wireless E911, the baseline data for the financial management of the actual wireless E911 implementation is not available.
- If the tax rate that is chosen proves to be inadequate, it will be necessary to ask the Legislature to increase the tax to provide adequate funding.



COST RECOVERY IN WASHINGTON STATE

INTRODUCTION

Cost recovery oversight is necessary if the Legislature imposes a tax to fund wireless E911 because of the high level of accountability that is required for dedicated tax revenues and the need to disburse funds equitably. Chapter 8 discusses the issues with cost recovery oversight and includes the following:

- A. Current State E911 Oversight**
- B. Wireless Carrier View of Cost Oversight**
- C. PSAP View of Cost Oversight**
- D. Unresolved Issues**
- E. Study Findings Pertinent to Cost Recovery in Washington State**

A. CURRENT E911 OVERSIGHT IN WASHINGTON STATE

Local government agencies, such as counties, cities or intergovernmental 911 boards, are responsible for the daily operations of most of the PSAPs in Washington State. The Washington State Patrol, which is a state agency, operates eight PSAPs that answer E911 calls. There are also some federally funded PSAPs that provide local 911 service as part of their overall emergency management. The U.S. Naval Air Station on Whidbey Island provides 911 service to parts of Island County. Some Indian reservations have PSAPs located in the tribal police stations that service the reservation.¹

Chapter 38.52 RCW, the enabling legislation for the implementation of statewide E911 service, established a state level of administration to oversee the implementation and operation of E911 statewide. The administration consists of a state E911 coordination office, a state E911 coordinator, and a state E911 advisory board. The state E911 coordination office is responsible for coordinating and facilitating the implementation and operation of E911 emergency communications throughout the state; seek advice and

¹ State and local E911 tax revenue is not used for operational costs in the federally operated or reservation PSAPs. The Washington State Patrol. PSAPs receive most of their funding from the state general fund. They do receive some assistance from a few counties for equipment replacement.

assistance from, and provide staff support for, the E911 advisory committee and recommend to the Washington State Utilities and Transportation Commission by August 31 of each year the level of the state enhanced 911 excise tax for the following year. The state E911 coordinator is responsible for heading the state E911 office.

The state E911 advisory committee was created to advise and assist the state E911 coordinator in facilitating the implementation and operation of E911 throughout the state. The state E911 advisory committee has no statutory power to enforce decisions but their input has been effective in shaping the implementation of wireline E911 statewide. The state E911 advisory committee consists of 29 members representing diverse geographical areas and stakeholder groups. RCW 38.52.530 directs that the members include representatives from the National Emergency Number Association (NENA), Associated Public Communications Officers (APCO), Washington State Fire Chiefs Association, Washington Association of Sheriffs and Police Chiefs, Washington State Council of Fire Fighters, Washington State Council of Police Officers, Washington Ambulance Association, State Fire Policy Board, Washington Fire Commissioners Association, Washington State Patrol, Association of Washington Cities, Washington Utilities and Transportation Commission, and representatives of large and small local exchange telephone companies. Recently, the state E911 advisory committee added a wireless carrier representative. The state E911 advisory committee expires on December 31, 2000.

B. WIRELESS CARRIER VIEW OF COST RECOVERY

During the study, the wireless carriers said that they would like the following components incorporated into cost recovery:

- The Legislature establishes a new wireless board to direct the implementation of wireless E911.
- The Governor appoints the wireless board members.
- Board membership should include at least the wireless carriers and the PSAPs.
- The Board determines the reimbursable items.
- There should be confidentiality protection for the wireless carrier proprietary data.
- The board should accept or reject the wireless carrier E911 implementation plans.
- The wireless carriers should be reimbursed on a cost per subscriber basis.

- The wireless carriers should implement the service and receive reimbursement when the service begins.
- The tax rate should be reduced if the costs for service are lower after implementation.
- There should be one state contract to implement the Phase I service rather than 39 county contracts. This simplifies administration for the wireless carriers.

The wireless carriers do not want the board to make technological choices that might obligate the carriers to use a particular technology. The wireless carriers also do not want the board to regulate the carriers.

C. PSAP VIEW OF COST OVERSIGHT

During the study, the PSAPs said that they would like to see the following components incorporated into a cost recovery oversight mechanism:

- There should be an oversight authority. They are not in agreement whether this should be a separate wireless E911 board or part of the state E911 advisory committee.
- The oversight authority should include at least representatives from the wireless carriers, the PSAPs, and the wireline companies.
- There should be a specific approved list of eligible fundable items.
- There should be confidentiality protection for the wireless carrier proprietary data.
- PSAPs and wireless carriers should have statutory immunity from civil liability for the provision of wireless E911 service.
- The oversight authority should accept or reject the wireless carrier E911 implementation plans.
- The wireless carriers should implement the service and receive reimbursement when the service begins.
- Each county should receive the appropriate amount of funds from the state wireless E911 account to pay wireless carriers for the costs of wireless E911 in that particular county.

- Surplus funds from Phase I implementation should stay in the wireless E911 account for Phase II implementation.

D. UNRESOLVED ISSUES

The wireless carriers and PSAPs continued to meet after the workgroup meetings finished on November 20, 1998. The following issues are still under discussion:

The structure of the cost recovery authority. The topics of discussion include whether this should be a separate board from the state E911 advisory committee or if it should be incorporated.

Powers of the cost recovery authority. Should the cost recovery authority be advisory only or have policy making authority?

Role of the state E911 office. The state E911 office was mainly designed to work with the small counties to implement and operate wireline E911 and direct disbursement of revenues from the state E911 account. There is discussion about the appropriate role of the state E911 office in wireless E911 implementation.

E. STUDY FINDINGS PERTINENT TO COST RECOVERY IN WASHINGTON STATE

The findings from the technical component chapter (Chapter 3) and the survey of other states (Chapter 5) provide some ideas for cost recovery in Washington State. This section outlines the lessons to be learned from other states, the findings on eligibility, and reimbursable costs from this study.

LESSONS FROM THE OTHER STATES

Other states passed legislation that establishes a cost recovery oversight authority and provides guidance for the cost recovery process. The legislation typically authorizes the appointment of a board with specific powers and duties, provides guidance on eligibility for cost recovery, types of reimbursable costs and verification of costs, and provides the wireless carriers with confidentiality protection. Other states report that the cost recovery boards are not effective if they do not have authority to make rules or if the state E911 law is ambiguous. Without rule making authority it is difficult to implement an administrative process or guidelines for cost recovery. Ambiguous legislation delays board action because attorney general opinions are often needed to determine the most appropriate course of action.

ELIGIBILITY FOR COST RECOVERY

Based on the findings of this report, the wireless carriers are eligible for Phase I cost recovery. Although the vendors and local wireline companies incur costs to provide wireless E911 service, their costs are imbedded in the wireless carrier costs and this is how they recover their costs.² The PSAPs do not incur PSAP related costs for Phase I service.

For Phase II, the wireless carriers and the PSAPs are both eligible to recover costs. For the purposes of this study, it is assumed that the wireless carriers' costs will continue to include vendor and local wireline company charges for Phase II service. However, since the wireless carriers have not chosen the Phase II technology, this assumption may not be accurate when Phase II is actually implemented.

REIMBURSABLE COSTS

The workgroup found that each technical component for Phase I and Phase II has line-item costs attributable to wireless E911 implementation. It was beyond the scope of this study to list the line-items costs for each technical component. Also, it is not known if future technological developments will be captured in the list of technical components in this report. For that reason, reimbursable costs should at least include costs associated with the technical components in this report but should not necessarily be limited to this list of technical components.

The technical component titled "administration" was meant to be a term for this report that included all the technical and legal staff time involved in implementing Phase I. This term may need to be further defined by those that have cost recovery oversight.

One cost that wireless carriers are reimbursed for in most of the other states that have carrier reimbursement is the cost of collecting and handling wireless E911 fees and charges. These states allow the wireless carrier to retain one to three percent of the total fees or charges collected. Since, most of these states also allow taxpayers to retain one-half to five percent for collection and remittance of retail sales tax, the reimbursement of wireless carriers for fee or surcharge administration is not a departure in tax policy. Currently, the Washington State Legislature has not authorized taxpayers to retain a percentage of state tax collections for reimbursement of administrative costs to collect and remit the state wireline E911 tax or most other state taxes. Legislative direction may be necessary to insure consistency of tax policy in this area.

² In this study, it is assumed that the wireless carriers' costs include the vendors' charges, the local wireline companies' trunking charges to connect the wireless switch to the E911 selective router, and the other costs associated with the technical components to implement Phase I service.

Vendor charges to the wireless carrier typically have caps. This prevents the costs to the wireless carrier from increasing indefinitely as the number of subscribers increases. It will be important to know the cap on vendor costs to insure that the wireless carriers are not inadvertently reimbursed for more than the actual cost of the service.

CHAPTER 9



FINDINGS

INTRODUCTION

Chapter 9 summarizes the findings from each chapter in the report. This chapter includes:

- A. Background on Wireless E911 in Washington State
- B. E911 Wireless Technology
- C. Technical Components for Phase I and Phase II
- D. Costs for Phase I and Phase II
- E. Funding and Cost Recovery for Wireless E911 in Other States
- F. The County Wireless E911 Tax
- G. Funding Wireless E911 in Washington State
- H. Cost Recovery in Washington State

A. BACKGROUND ON WIRELESS E911 IN WASHINGTON STATE

In Washington State, there are approximately 1.25 million wireless subscribers. Gross revenues for wireless companies in Washington State totaled \$514.2 million in 1997. In the major urban counties, the industry grew at an estimated rate of 23 percent from 1996 to 1997.

The FCC regulates the wireless industry including the provision of 911 and E911 service. Chapter 80.66 RCW prohibits the Washington Utility and Transportation Commission (WUTC) from regulating wireless telecommunications.

The FCC has the authority to preempt state laws or regulations that conflict with or prevent wireless telecommunications companies from meeting their federally mandated requirements

In 1993, the Washington State Legislature directed wireless telecommunications companies to provide automatic number identification (ANI) to the PSAPs for wireless 911 callers. They also authorized counties to impose a county E911 wireless tax of 25

cents per month on radio access lines to fund the impacts of increasing wireless 911 calls on the PSAPs.

The 911 community wanted the wireless E911 tax rate to be 50 cents per month to be consistent with the county wireline E911 tax rate. The cellular companies argued that since wireless customers were not receiving ANI or automatic location identification (ALI), they should not have to pay an additional 25 cents until they received full wireless E911 service. The cellular companies operating in the state at that time said that they would provide ANI for their customers at no cost to the PSAP if the county tax rate was 25 cents per month.

From 1994 to 1996 the wireless industry expanded to include companies that offered specialized mobile radio (SMR) service and personal communications services (PCS).

In 1996, the FCC issued an order requiring all wireless carriers to provide wireless E911 in two phases, if certain conditions were met. Phase I called for the provision of ANI and cell sector location to PSAPs by April 1, 1998, or 6 months after the wireless carrier receives a PSAP request for service (whichever is later). Phase II required the provision of latitude and longitude of a mobile unit making a 911 call within a radius of no more than 125 meters (410 feet) in 67 percent of all calls by October 1, 2001.

The wireless carriers only have to offer Phase I and Phase II service if the three prerequisites are met: 1) carriers receive a request for E911 service from a PSAP; 2) the PSAP requesting service must be capable of receiving and using the data provided by the wireless carrier; and 3) there is a mechanism for the recovery of costs relating to the provision of E911 service in place.

Wireless companies are working to fulfill the requirements of the FCC's wireless E911 orders. Most carriers have contracted with private vendors to provide Phase I (ANI and cell sector location) and are ready to do so when the PSAPs order Phase I and when a mechanism for cost recovery is in place.

The counties have used the money from the 25-cent county E911 excise tax to offset workload impacts and have no additional funding source to pay for Phase I. Consequently, they either have not ordered Phase I or have ordered and subsequently withdrawn their order for Phase I. Instead, the counties have written to the wireless companies requesting ANI under the provisions of RCW 38.52.560 and at no charge to the PSAP.

The major cellular companies that were operating in the state at the time RCW 38.52.560 was passed in 1993 have provided ANI service to their customers in six counties at no charge to the PSAPs. A small cellular carrier and one of the new PSC carriers are providing ANI at no charge to the PSAPs. This provides either 10 digit or seven digit ANI service to approximately 80 percent of wireless subscribers.

Other carriers that are not currently providing ANI say that they will not do so until a formal mechanism is in place to reimburse carriers for the cost of providing full Phase I which means ANI and cell-sector location. These carriers argue: (1) FCC Order 94-102 preempts RCW 38.52.560 because the state law is an obstacle to the accomplishment of E911, or (2) FCC Order 94-102 would prevail over RCW 38.52.560 if a party were to petition the FCC for express preemption, or (3) regardless of the preemption issue, wireless carriers should be compensated for providing E911 just as wireline carriers are.

County officials and 911 coordinators say that companies are required by RCW 38.52.560 to provide ANI with no direct reimbursement for the cost of providing that service because: (1) the major carriers operating in the state when RCW 38.52.560 was adopted agreed to absorb the cost of providing ANI, (2) wireless carriers are reimbursed for providing ANI through the benefit their customers received because the tax rate on those customers was set at 25 cents per month instead of 50 cents per month, and (3) the FCC has not preempted RCW 38.52.560.

As of December 31, 1998, the Department of Revenue does not know of any wireless carriers that have petitioned the FCC for the preemption of Chapter 38.52, RCW. Nor to the Department's knowledge has the FCC preempted the Washington State law.

The wireless industry proposed an amendment to HB 1126 in the 1998 Legislative session that would have provided cost recovery for Phase I for the wireless companies and the PSAPs. The amendment was not adopted.

The following issues remain unresolved and hinder the provision of wireless enhanced 911 services in Washington State:

- It is not known if the FCC rule preempts the Washington ANI law (RCW 38.52.560) and replaces it with Phase I requirements. It is also not known if the FCC would preempt Washington ANI law if a petition were brought before the FCC to do so.
- It is not known if federal law means that wireless carriers are required to provide both components of Phase I (ANI and cell sector location) and precludes wireless carriers from providing just one component of Phase I if the PSAPs only request ANI.
- If the carriers were to provide ANI only, it is not clear whether federal law means that they must be compensated for any portion of Phase I that they provide.
- RCW 82.14B.030(2), which imposes a county E911 tax on radio access lines at a rate of 25 cents per subscriber per month, may not create a funding mechanism that would comply with federal law because it does not operate to reimburse carriers for enhanced 911 services.

B. E911 WIRELESS TECHNOLOGY

The E911 system is not capable of handling the digital information required to provide Phase I or Phase II service to wireless subscribers without additional technology.

The telecommunications companies are currently upgrading their systems to improve technology to accommodate new telecommunications services such as number portability. A portion of this upgrade is directly attributable to implementation of wireless E911.

Technology for Phase I is available and the companies are prepared to provide it when the PSAPs request it and there is funding available to pay for it.

Technology neutrality allows wireless carriers to choose a solution to provide Phase I based on their unique networks. Wireless carriers can choose a solution developed by private vendors or by the incumbent telephone companies.

The cellular network technology for Phase II provides latitude and longitude of a caller within 410 feet of the caller's location. This solution provides ALI to wireless subscribers without modifying the handset. Location equipment must be added to the cell sites to provide the latitude and longitude of the caller. Phase II cellular network technology is being developed and deployed in some parts of the country.

Global positioning system (GPS) handset technology for Phase II provides latitude, longitude and altitude within 40 feet. GPS handset technology will require that current handsets be retrofitted with a GPS chip. Some manufacturers are starting to produce handsets with the GPS technology included.

Phase I upgrades the network from the wireless switch to the E911 selective router to the PSAP. Phase II upgrades the network from the cell site to the wireless switch. Technically, Phase I is imbedded in Phase II and will act as a back up if Phase II technology has system failures. These phases can be implemented simultaneously or in sequence.

It is critical that the Phase I and Phase II technologies chosen by the wireless companies comply with the national standards for interface with PSAP and wireline E911 technology.

It is anticipated that upgrades to existing PSAP equipment will be necessary for Phase II.

C. TECHNICAL COMPONENTS FOR PHASE I AND PHASE II

For purposes of this study, the technical workgroup defined a “technical component as a unique, identified part of the 911 system that is necessary to deliver the 911 call and associated information from the caller’s telephone to the PSAP.”

There are a total of 27 technical components needed to implement wireline and wireless E911 service.

Some technical components installed for wireline E911 service require upgrades or additional technology for Phase I and Phase II. Some of the new Phase I technical components require upgrades or additional technology for Phase II.

Phase I technical components link the wireless mobile switch to the E911 system and upgrade the E911 selective router and the E911 database.

Phase I requires wireless companies and vendors to add new trunking from the mobile switching center to both the E911 selective router and to the E911 database, data circuits at the E911 database, software and a routing database at the mobile switching center, a wireless E911 database, vendor equipment and data links, and some network equipment.

Phase I requires wireline companies to provide upgrades to the current E911 system and to add some network equipment to interface with multiple databases.

Phase I does not require PSAPs to add new equipment.

Phase II may require that new technical components be added to the handset, the cell sites, the mobile switching centers or PSAPs depending on the solution the companies choose.

To send the Phase II location data to the PSAP in terms of latitude and longitude requires upgrades to the Phase I system.

For Phase II a relational PSAP database is necessary to route the call to the appropriate PSAP. A relational PSAP database contains the PSAP boundary maps and emergency service boundaries plotted in latitude and longitude coordinates rather than address ranges. Vendors who created a relational PSAP database for Phase I, will have to update the database for Phase II.¹

¹ A relational PSAP database may also be used for Phase I. However, it is not essential for Phase I. The King County 911 coordinator develops the necessary Phase I routing with wireless company engineers without using a relational PSAP database. Private

Phase II requires PSAP equipment replacement in order to display the location data and convert latitude and longitude to usable call response information.

Current county and city maps are not adequate to translate latitude and longitude into accurate street addresses. These maps have to be GPS corrected for latitude and longitude.

D. COSTS FOR PHASE I AND PHASE II

TYPES OF COSTS AND COST DRIVERS

Most of the technical components for Phase I and Phase II service (67 percent of the technical components) have a monthly recurring cost. There is also an installation charge. The remaining technical components have non-recurring costs, which are one-time costs that include installation charges and maintenance contracts.

The E911 tariff only applies to the technical components in the E911 network. Market forces determine the other costs.

The general cost drivers for Phase I and Phase II include the network cost, the number of wireless carriers, wireline carriers, and vendors; and technical and legal staff time.

Subscribers are not a cost driver for the technical components of Phase I service.

Specific cost drivers for Phase II include the amount of data in the relational PSAP database, and the level of accuracy needed for Phase II mapping and the methodology used. Subscribers may drive the cost for the GPS handset solutions for Phase II, but at this time it is not certain that they will.

WIRELESS CARRIER COSTS

If the wireless carrier provides Phase I service without using a vendor, then the costs include network and administration.

If the wireless carrier chooses to use a Phase I service vendor, then the costs include the network, administration, and the cost of the vendor's service.

vendors may choose to develop a relational PSAP database as part of their Phase I solution and in preparation for Phase II.

The wireless carriers pay the vendors on a per subscriber or per PSAP basis for Phase I service. The vendor typically places a cap on the charges to the wireless carriers. The number of subscribers drives the wireless carrier's cost until the cap is reached. When the cap is reached the wireless carriers costs are fixed.

The wireless carriers and vendors have contracts for Phase I service that are typically no more than three years in length. The wireless carriers have to meet the FCC deadline of 2001 for Phase II service and they expect the costs to change at that time.

The Department conducted a cost survey to calculate a cost estimate to actually implement and operate wireless E911 in Washington State. The carriers said that they had concerns about the Department's request for Washington State cost data. The wireless carrier's Phase I costs are based on national cost estimates and it would be difficult to isolate Washington State costs. The national cost estimates capture economies of scale that may not be realized if Washington state costs are isolated. There are significant differences between the carriers and it may be difficult to get a true picture of costs in the aggregate. Cost information changes from year to year and the information may be outdated within a short time. The vendors may have confidentiality clauses in their contracts with the wireless companies that prevent the release of vendor cost information. The wireless carrier's pricing structure is incompatible with DOR's cost questionnaire.

The survey did not produce substantiated cost data that could be used to generate a tax rate based on the estimated costs to actually implement wireless E911 in Washington State.

The Department had concerns about the survey data. Only one carrier completed the survey as requested, provided estimated line item costs, and calculated the cost per subscriber based on the line item costs. The data from the other carriers was incomplete. Some of the carriers said they would submit data but did not. Most carriers submitted the cost per subscriber per month rate that they say they need to recover their costs. They did not provide substantiated cost data to support these rates. Some carriers provided vendor information and others did not. Those that did not provide the information said that they could not because of confidentiality agreements that they signed with their vendors.

General findings from the survey data indicate that for Phase I service wireless carriers will need reimbursement ranging from no less than 20 cents per subscriber per month to no more than 33 cents per subscriber per month to initially recover both their non-recurring and recurring costs for Phase I service.

After the non-recurring costs are recovered, the carriers need reimbursement ranging from no less than 15 cents per subscriber per month to no more than 27 cents per subscriber per month for Phase I recurring costs.

The wireless carriers do not have cost estimates for Phase II because they have not chosen the technology at this time.

PSAP COSTS FOR PHASE I SERVICE

If the PSAPs were to order Phase I and pay the cost per subscriber rates the wireless companies say they need, the PSAPs would pay \$16.3 million for Phase I service from 1998 to 2001. The cost is \$3.4 million for the first year, \$3.8 million for the second year, \$4.3 million for the third year and \$4.8 million the fourth year.

If the PSAPs pay the cost per subscriber rates the wireless companies say they need, the PSAPs' Phase I costs increase at the same rate as the increase in the number of wireless subscribers.

If the PSAPs were to pay for Phase I at the cost per subscriber rates proposed by the carriers, the PSAPs could inadvertently pay more than the wireless carriers actual costs because the PSAPs would not know when the wireless carriers fixed costs were met.

PSAP COSTS FOR PHASE II SERVICE

Phase II requires a mapping display at the call taker position. The estimated cost to replace PSAP equipment in 2001 for Phase II service totals \$28.8 million. For purposes of this report, the Department assumes \$14.4 million will come from wireless E911 tax revenues, should the Legislature decide to impose a wireless E911 tax, and \$14.4 from the wireline E911 tax revenues.

The cost for PSAP equipment assumes that there is no regionalization or consolidation of PSAPs and that every call taker position in the state is equipped to handle Phase II service. There are currently 409 call taker positions in the state.

The PSAP equipment replacement cycle is five years because the vendors do not provide software support for the equipment after five years.

The estimated cost to upgrade the 911 equipment and pay for maintenance agreements over the five-year equipment replacement cycle totals \$50.7 million--\$10.14 million per year. For purposes of this report, the Department assumes \$5.07 million will come from wireless 911 tax revenues and \$5.07 million from the wireline E911 tax revenues.

Complete implementation of Phase II is not possible without a GPS corrected map. Mapping costs vary widely depending on the degree of accuracy that is desired. Mapping costs can be as low as \$1 million to correct current highway and road maps to as high as \$18.6 million to map latitude and longitude for every parcel in the state.

Currently, ten counties have GPS corrected maps and three more counties are in the process of developing corrected maps.

Cost should be shared for mapping because there are more parties than 911 who will use the maps. Until a plan is developed, it is difficult to determine the total costs and the portion 911 should bear.

E. FUNDING AND COST RECOVERY IN OTHER STATES

Most states are debating how to fund cost recovery for wireless E911. Some states are not taking any action. Some are studying the problem.

FUNDING MECHANISMS

At the time of this report, thirteen states had passed funding and cost recovery legislation and are in the process of implementing the legislation and Phase I service. Some of these states are also saving funds for Phase II implementation.

The wireless E911 funding mechanisms chosen by the states typically include monthly taxes or surcharges. Either the state or local government imposes the tax or surcharge.

The states use a variety of tax or surcharge bases including:

- Per wireless connection that has a service address within the state.
- Per wireless connection that has a billing address within the state.
- Any mobile identification number (wireless phone number) that has an area code in the state.
- A wireless phone number with an area code in the state and a billing address in the state or local jurisdiction.
- Per subscriber based on service address in the state.
- Per subscriber based on billing address in the state.
- Per instrument based on service address in the state.
- Per radio communication access line in the state.
- The total charge on the wireless phone bill. In this case the rate is a percentage of the total charge on the wireless phone bill.

The tax or surcharge rates range from 32 cents to \$1 per month.

In some states the rate is fixed. In other states, there is a maximum rate which means that the state or local governments or a designated authority can adjust the tax or surcharge rates periodically but the rate cannot exceed the maximum level.

The states determined their tax or surcharge rates in a variety of ways. Some states used the cost recovery per subscriber rate that wireless carriers said they needed for cost recovery for Phase I service. Others equalized the E911 tax or surcharge rate for wireline and wireless phones. Some set a maximum rate that can be adjusted annually by a state or local government or other designated authority. None of the states that participated in the survey said that they calculated their tax rates based on data provided by the wireless companies on the actual costs to implement Phase I service.

Some states allow the E911 account to retain interest as part of their funding mechanism.

COST RECOVERY PROVISIONS

Most state statutes authorize the wireless carriers and the PSAPs to recover costs. Some allow the wireless carriers, the PSAPs and the local telephone company to recover costs. Only one limits cost recovery to PSAPs only.

Some states list in statute the types of reimbursable costs for wireless carriers and PSAPs. Some states do not specify the types of reimbursable costs in statute but authorize a specially appointed board, state agency or local government agencies to determine the costs that are reimbursable.

Some states also authorize payment of an administrative fee to the wireless carriers for the cost of collecting and remitting the tax or surcharge. The administrative fee ranges from one to three percent of the gross tax or surcharge collected.

All of the states have an administrative body to oversee cost recovery. In some states, the state agency that currently manages the wireline E911 service also manages the implementation and cost reimbursement for wireless E911. Many states authorized a separate wireless board to oversee the implementation and operation of wireless E911.

The wireless boards are appointed by the Governor and are typically comprised of representatives from the wireless industry, the 911 community, and a state agency such as the Treasurer or Auditor. The wireless board duties and powers vary. Some have oversight only, with no rule making authority. Others have rule making, management, reimbursement and audit authority for wireless E911 implementation and ongoing operation. .

In some states the wireless boards operate independently from state and local governments. The wireless board establishes the wireless account in a bank and hires a third a party auditor.

The states usually authorize the wireless boards to retain no more than two percent of the wireless tax or surcharge revenues for board administrative costs.

The wireless E911 boards require some form of cost verification from the wireless carriers before they will authorize reimbursement. Some boards hire an independent third party auditor who is responsible for receiving, maintaining, and verifying the accuracy of any proprietary information submitted by the wireless carriers. Some boards set a requirement that the PSAPs and wireless carriers must provide verification of costs as requested by the board. Other boards require invoices or "sworn invoices."

Some states establish statutory limits on the amount a wireless carrier can be reimbursed. For example, Indiana will reimburse the wireless carrier for full cost recovery as long as the payment of the invoice does not result in payment of more than 125 percent of the total amount of surcharge contributed to the fund by the wireless carrier.

Some of the states have the funding and oversight boards in place but say that the boards are having difficulty determining the actual costs for Phase I service. It is difficult to get proprietary information on the number of subscribers or the costs from the wireless carriers.

Some wireless carriers want to charge small PSAPs a flat rate of \$200 per month regardless of the number of customers. This is causing disagreement and delaying finalization of the contract.

States that are implementing Phase I have some concerns with their local phone companies. They have found that the wireless interconnection costs with the local phone companies are high and keep going up. There is concern that the local phone companies may charge PSAPs or wireless carriers for upgraded equipment that is part of the local phone company network and should not be charged to wireless E911. There is also concern that the local phone companies may be double dipping on costs by charging the PSAPs and the vendors for the same cost item.

One state has found that the Phase I costs are going down and the wireless carriers will make an adjustment soon because the infrastructure has not been as expensive as the wireless companies thought it would be.

Two areas of concerns with wireless E911 tax revenue collection include resellers of wireless service and prepaid wireless phone cards. The resellers do not always collect and remit the fee and it is difficult to obtain information from the wireless carriers regarding the resellers. With the prepaid wireless phone cards, it is not clear who pays the 65-cent fee to the fund each month or how to insure that the total amount due is collected over the number of months the prepaid phone card is used.

F. THE COUNTY WIRELESS E911 TAX

Twenty-seven counties imposed the tax in 1994. The remaining counties imposed the tax between 1995 and 1998. Some of the counties that imposed the tax later did not think that they had enough radio access lines in the county in 1994 to merit a new tax. Or the county commissioners chose not to impose a new tax.

In 1997, the county E911 wireless tax revenue in 37 counties totaled \$2.9 million. Eight large counties collected 82 percent (\$2.4 million) of the total county wireless E911 revenue. The other 29 counties collected 18 percent (\$.5 million) of total county wireless E911 tax.

From 1996 to 1997, the large counties experienced a 23 percent increase in county wireless E911 tax revenue from \$1.9 million in 1996 to \$2.4 million in 1997.

There are no statutory provisions directing PSAPs as to the specific use of the county E911 wireless tax. Most of the smaller counties combine the wireless funds with other PSAP revenues for general operational costs. The larger counties are using the wireless tax revenues to fund additional personnel to handle wireless calls.

Some counties say that they are having difficulty with wireless E911 tax administration because the counties do not have the resources to audit the number of taxable radio access lines that each wireless carrier has. There are no county E911 tax returns. Remittances fluctuate monthly. County officials don't know how many resellers are operating in their counties. When contacted by the counties, the resellers say their wireless carriers are collecting and remitting the tax and counties have no way to verify this.

G. FUNDING WIRELESS E911 IN WASHINGTON STATE

The PSAPs are not able to request Phase I service at this time because they do not have a source of funding to pay for the service.

One funding option, known as "bill and keep" is to have wireless carriers bill their own subscribers for the carrier's cost to provide the wireless E911 service and keep the revenues to pay for the E911 service costs. This option is not economically neutral and would not guarantee stable funding for E911 service.

The most appropriate funding mechanism for wireless E911 would be a state tax based on radio access lines and collected monthly. The tax revenues should be dedicated to the implementation and operation of wireless E911 and deposited in a separate account in the state treasury for wireless E911. The tax should be set at rate to fund at least Phase I at

this time. The wireless carriers should collect the tax and remit it to the Department of Revenue.

The wireless carriers and the Department disagree on how to determine the state wireless E911 tax rate. The wireless carriers propose that the state tax rate be based on national cost data. The Department of Revenue proposes that the state tax rate be based on an estimate of total costs to actually implement and operate wireless E911 in Washington State.

The Department of Revenue has concerns about setting the tax rate at the national cost per subscriber rate. If the Legislature imposes the tax, the state and local government entities will be legally obligated to provide the service to the public regardless of the actual cost. Without an cost estimate to implement and operate Phase I in Washington, it is not possible to determine which tax rate to choose from the range of tax rates the wireless carriers said they would need to recover their costs. It is also difficult to determine if the tax rate that is chosen is adequate or if it provides too much revenue. If the chosen tax rate proves to be inadequate, it will be necessary to ask the Legislature to increase the tax to provide adequate funding. Furthermore, without a cost estimate, the baseline data for the financial management of the actual wireless E911 implementation is not available.

Some study group members would like the tax rate to be initially be set at a level that would cover Phase I costs and build an adequate fund to pay for the wireless portion of the PSAP equipment upgrades for Phase II. Other study group members expressed concern that if the tax rate were set now, it would be based on the equipment replacement estimates for this study which did not take into account PSAP consolidation, regionalization or future technological changes. Consequently, this estimate may be high and this would result in a greater tax burden on the wireless subscriber than will be actually necessary to pay for the wireless carrier portion of equipment replacement costs.

H. COST RECOVERY FOR WIRELESS E911 IN WASHINGTON STATE

Cost recovery oversight is necessary if the Legislature imposes a tax to fund wireless E911 because of the high level of accountability that is required for dedicated tax revenues and the need to disburse funds equitably.

Local governments have oversight of the daily operations of the most of the PSAPs in the state. The Washington State Patrol has oversight of eight PSAPs in the state. The State E911 Office and the State E911 Advisory Board provide state oversight of the implementation and operation of statewide E911 service.

The wireless carriers would like a new wireless board, including at least representatives from the wireless carriers and the PSAP, to direct the implementation of wireless E911. The Board would determine the reimbursable items and should accept or reject the wireless carrier E911 implementation plans. There should be confidentiality protection for the wireless carrier proprietary data. The wireless carriers should be reimbursed on a cost per subscriber basis. The wireless carriers should implement the service and receive reimbursement when the service begins. The tax rate should be reduced if the costs for service are lower after implementation. The wireless carriers would like one state contract to implement the Phase I service rather than 39 county contracts. This simplifies administration for the wireless carriers. The wireless carriers do not want the board to make technological choices that might obligate the carriers to use a particular technology. The wireless carriers also do not want the board to regulate the carriers.

The PSAPs agree that there should be an oversight authority. They are not in agreement if this should be a separate wireless E911 board or part of the State E911 Advisory Committee. The oversight authority should include at least representatives from the wireless carriers, the PSAPs, and the wireline companies. There should be eligible fundable items and confidentiality protection for the wireless carrier proprietary data. The oversight authority should accept or reject the wireless carrier E911 implementation plans. The wireless carriers should implement the service and receive reimbursement when the service begins. PSAPs and wireless carriers should have statutory immunity from civil liability for the provision of wireless E911 service. Each county should receive the appropriate amount of funds from the state wireless E911 account to pay wireless carriers for the costs of wireless E911 in that particular county. Surplus funds from Phase I implementation should stay in the wireless E911 account for Phase II implementation.

Unresolved issues regarding cost recovery oversight include, but are not limited to, the structure of the cost recovery authority, the powers of the cost recovery authority, and the role of the State E911 Office.

The study data indicates that the wireless carriers are eligible for Phase I cost recovery. The PSAPs do not incur PSAP related costs for Phase I service. For Phase II, the wireless carriers and the PSAPs are both eligible to recover costs.

The study data indicates that reimbursable costs should at least include costs associated with the technical components in this report but not necessarily be limited to this list of technical components.

The technical component titled "administration" was meant to be a term for this report that included all the technical and legal staff time involved in implementing Phase I. This may need to be further defined by those that have cost recovery oversight.

The Legislature should provide direction on the payment of administrative expenses to collect and remit the state wireless E911 tax. It would be a departure from current policy

to reimburse wireless carriers for the collection and remittance of the state E911 tax because the Legislature does not currently reimburse wireline companies for the collection and remittance of state wireline E911 taxes. Nor does the state reimburse other taxpayers for collection and remittance of state sales taxes. This is an expense that the wireless carriers do recover in some of the other states.

For cost reimbursement purposes, it will be important to know the wireless carrier's fixed costs to insure that the wireless carriers are not inadvertently reimbursed for more than the actual cost of the service.



OPTIONS FOR LEGISLATIVE CONSIDERATION

INTRODUCTION

In Chapter 346, Laws of 1998, the authorizing legislation for this study, the Legislature asked the workgroup to make recommendations for the most efficient and cost effective manner to implement wireless E911 service statewide. The wireless carriers have not yet decided the technology to implement Phase II. Consequently, it was not possible at this time to collect the data or do the analysis to develop comprehensive recommendations on Phase II at this time.

However, the data from this report suggests that there are options for legislative consideration regarding the implementation and operation of Phase I. The first is to wait until more is known about the estimated costs to actually implement and operate wireless E911 in Washington state. The second is to implement a funding mechanism and Phase I service. This chapter discusses the options and includes the following sections:

- A. Option 1: Wait to fund Phase I service until more cost data is available.
- B. Option 2: Fund Phase I Service
- C. Determination of the Tax Rate
- D. Department of Revenue Tax Policy Recommendations

A. OPTION 1: WAIT TO FUND PHASE I SERVICE UNTIL MORE COST DATA IS AVAILABLE

There is no short-term harm done by waiting. The level of 911 service that wireless subscribers are currently receiving will not likely change unless the FCC actually preempts the Washington ANI law. There is no indication at this time that the FCC will preempt the state law because no carriers have petitioned to have the law preempted. Wireless carriers can still meet their FCC mandate by contracting with Phase I and Phase II vendors so that they are prepared to implement E911 for wireless when the funding is in place. It may be possible to get more information on costs from the states that are currently implementing wireless E911 or doing cost studies. This data may be useful to model costs for Washington State. For example, California is conducting a Phase II test

in 1999 and has hired a cost consultant to determine California's costs for Phase I and Phase II implementation. The consultant's report is due by December 31, 1999. If the Legislature waits to fund Phase I, more time is available to work out the details for Phase II such as mapping and equipment replacement. Costs may change as the carriers implement Phase II in different states and realize the actual costs involved for the service. Finally, the PSAPs may choose to consolidate or regionalize as a result of the provisions of the 1998 legislation (House Bill 1126) that authorized salary subsidization for three years for PSAPs in counties with populations of 75,000 or less. When the three-year salary subsidization expires on June 30, 2001, PSAPs will be eligible for permanent salary subsidization only if they consolidate or regionalize.

However, there are some disadvantages to waiting. Wireless customers will continue to receive a lower level of E911 service than the wireline customers. Eventually the overall quality of public safety response in Washington State will deteriorate as the percentage of 911 calls from wireless subscribers increases. The PSAPs and wireless companies will not be able to proceed with implementing wireless E911 service because there will be no source of funding for PSAPs to pay for the service. There is no guarantee that the Phase I cost information from other states will be applicable to Washington State to model Phase I costs.

B. OPTION 2: FUND PHASE I SERVICE

As a crucial public service, E911 requires stable funding. Based on the analysis in this report, the wireless E911 funding mechanism that provides the most stability is a tax. Should the Legislature decide to proceed with a tax, the report findings and workgroup discussions indicate that the following tax provisions would provide the most stable funding mechanism for wireless E911:

1. The wireless E911 tax should be a state tax imposed monthly on radio access lines. A state tax insures that the tax will be imposed uniformly on wireless subscribers in all counties.
2. The state E911 tax should be collected by the wireless carriers and remitted to the Department of Revenue.
3. The tax should be dedicated for the implementation of wireless E911 service and deposited in a separate wireless E911 account in the state treasury. A separate account is needed to insure that the wireless E911 tax revenues are kept separate from the state E911 wireline tax. This will ensure that the funds from the wireline E911 tax and the wireless E911 tax are used for the statutory purposes for which they were intended.

4. The interest generated by the wireless E911 account should remain in the account for purposes of funding wireless E911 service. This would help offset the costs of Phase I and, at a later date, Phase II service.
5. There should be an administrative mechanism to oversee cost recovery to insure accountability and equitable disbursement of the wireless E911 funds. The statute authorizing the administrative mechanism should at a minimum address:
 - The structure of the administrative mechanism (ie. Board, etc.)
 - Powers and duties. Powers should include, but not be limited to, reviewing and approving or disapproving reimbursement requests, authorizing the Treasurer to disperse funds from the E911 account, audit authority, enforcement authority.
 - Eligibility for cost recovery.
 - Guidance on reimbursable items. At a minimum, the criteria for a reimbursable item should be that the item is directly related to the implementation of wireless E911.
 - Type of cost verification from the wireless carriers that is needed for reimbursement.
 - Confidentiality protection for all proprietary information submitted.
 - Direction on the use of any surplus revenues that may be in the wireless E911 account during or after the implementation of wireless E911
 - Direction on the timing, methodology, and responsibility to change the tax rate if necessary.

C. DETERMINATION OF THE TAX RATE

Based on the findings in the study, there are two ways to determine the tax rate. One is to use national cost data to determine the tax rate. The other is to develop an estimate of the actual costs to implement and operate Phase I in Washington State and then determine the tax rate. With both methods, the actual cost to implement and operate the service will not be known until the service is implemented and the wireless carriers have recovered their costs. The key difference is that if the tax is based on an estimate of actual costs a baseline for comparative analysis is established. The comparative analysis of estimated and actual costs is used for government fiscal accountability and in the budget and planning process.

DETERMINING THE TAX RATE ON NATIONAL COST DATA

If the Legislature wishes to proceed with a tax rate based on national costs, the study data indicates that the tax rates range from no less than 20 cents to no more than 33 cents per subscriber per month. This range of rates insures cost recovery for non-recurring costs and recurring costs for Phase I service. Study data also shows that to recover Phase I recurring costs only, the wireless carriers need reimbursement of no less than 15 cents per subscriber per month to no more than 27 cents per subscriber per month.

In discussions with the wireless carriers and in some of the cost survey data, the most common tax rate wireless carriers quote is 25 cents per subscriber per month. Study data shows that this may be low for the carriers with a smaller presence in the state. The Department prepared Table 10-A to illustrate the revenue impact of tax rates ranging from 15 cents to 33 cents per subscriber per month. The number of taxpayers in Table 10-A includes the total wireless subscribers in the state.¹ The revenue impact reflects a collection period from January 1, 1999, to December 31, 2001. The subscriber growth rate assumes that the wireless industry will hit market saturation in 2007 at 47 percent of the population, and that subscribers will continue to grow until 2007 but with decelerating growth. The rate of deceleration is based on the past and is adjusted to meet 2007 saturation. Growth information is based on national and western state wireless industry data.

¹ The number of subscribers in Table 4-D is lower than the number of subscribers in Table 10-A. The reason is that Table 4-D reflects the costs only from the wireless carriers that submitted data for the study. Table 10-A reflects the number of wireless subscribers in the state.

TABLE 10. A
3-YEAR REVENUE IMPACT OF TAX RATES FOR WIRELESS E911 TAX
IN WASHINGTON STATE

TAX RATE (CENTS/SUBSCRIBER)	1999 (MILLION \$)	2000 (MILLION \$)	2001 (MILLION \$)	3 YEAR TOTAL (MILLION \$)
15	\$2.7	\$3.0	\$3.4	\$9.1
16	2.8	3.2	3.6	\$9.6
17	3.0	3.4	3.8	\$10.2
18	3.2	3.6	4.1	\$10.9
19	3.4	3.8	4.1	\$11.3
20	3.5	4.0	4.5	\$12.0
21	3.7	4.2	4.7	\$12.6
22	3.9	4.4	5.0	\$13.3
23	4.0	4.6	5.2	\$13.8
24	4.3	4.8	5.4	\$14.5
25	4.6	5.0	5.6	\$15.2
26	4.6	5.2	5.9	\$15.7
27	4.8	5.4	6.1	\$16.2
28	5.0	5.7	6.3	\$17.0
29	5.1	5.9	6.6	\$17.6
30	5.3	6.1	6.8	\$18.2
31	5.5	6.3	7.0	\$18.8
32	5.6	6.5	7.2	\$19.3
33	5.9	6.7	7.5	\$20.1
Subscribers	1,483,535	1,681,713	1,882,776	N/A
GROWTH RATE	N/A	13%	12%	N/A

The policy rationale for basing the tax rate on national costs is that Phase I would be implemented soon. The wireless carriers have six months from the date the service is ordered to actually provide the service according to the FCC mandate. If the effective date of the tax rate is July 1, 1999 and the PSAPs ordered Phase I service on July 1, 1999, the Phase I service should be in place by January 1, 2000. Actual costs will be known at that time because carriers will have been reimbursed.

DETERMINING THE TAX RATE BASED ON ESTIMATES OF ACTUAL WASHINGTON STATE COSTS

If the Legislature wishes to determine a tax rate based on estimates of actual Washington State costs, the wireless carriers would have to develop cost estimates specific to Washington State and submit the estimates to a confidential third party for verification and aggregation. The Department of Revenue could then use the aggregated data and updated subscriber counts to determine a tax rate. The following suggestion outlines a

methodology that the Legislature could use to obtain the cost information while guaranteeing the wireless carriers that there is a funding mechanism in place for Phase I.

The Legislature imposes a wireless state E911 tax in the 1999 session at a maximum rate of 33 cents per radio access line per month. Delay the effective date of the tax until July 1, 2000. The law requires the wireless carriers to determine estimated Washington State costs to actually implement and operate Phase I. The wireless carriers submit the data to a neutral, confidential third party for verification and aggregation. The Department of Revenue will determine a possible tax rate based on the aggregated cost estimate and present this information to the Legislature. The Legislature will set the tax rate during the 2000 legislative session based on the aggregated Phase I cost estimate. If the cost data is not forthcoming from the wireless carriers, then the tax authorization will be null and void. If sufficient cost data is forthcoming, tax collection begins for activity occurring on or after July 1, 2000 with the first tax remittances in September 2000. The appropriate body should develop a state Phase I implementation plan that correlates the service delivery to PSAPs with the tax remittances so that there is revenue to pay for the service. No PSAP can order Phase I service outside of the state Phase I implementation plan.

To implement this suggestion the activities listed below should take place. The timeline may be shorter depending on the time needed by wireless carriers to develop Phase I cost estimates.

- A workgroup comprised of financial and technical representatives from the wireless carriers, PSAPs, wireline companies, and vendors (or the cost recovery board if the Legislature authorizes one) would determine guidelines for reimbursable costs based on direction given by the Legislature. The wireless carriers would use the guidelines for reimbursable costs to develop estimates of actual costs to implement and operate Phase I service in Washington State no later than October 1, 1999.
- The wireless carriers would submit the Phase I cost estimates to a neutral third party on a confidential basis for verification and aggregation by October 1, 1999. The neutral third party would submit aggregated numbers to the Department of Revenue no later than December 1, 1999.
- The Department of Revenue would determine and recommend to the Legislature by the first day of the 2000 legislative session, the possible tax rate based on an estimate of actual costs and applying a growth factor.
- If the Legislature authorizes the tax, state E911 tax collection would begin on radio access lines in service on or after July 1, 2000. The first tax remittances would be received in September, 2000.

- The workgroup (or cost recovery board) would develop a state Phase I implementation plan that correlates implementation with the tax remittances. No PSAP would order the Phase I service outside of the schedule outlined in the state Phase I implementation plan.
- The workgroup would submit status reports on the activities described above to the Legislature on December 31, 1999 and December 31, 2000.

Policy Rationale

- The FCC order says there has to be a cost recovery mechanism in place as one of the conditions for the wireless carrier to be required to provide service. If the Legislature passes a wireless E911 tax and the Governor signs the bill, then the cost recovery mechanism for Phase I service is in place, provided that the wireless carriers supply the requested data. There is nothing in the FCC order that says that states cannot request estimated cost data for their own state as a condition of the cost recovery mechanism. Also, timing of the tax collection is not mentioned anywhere in the FCC order. Thus, it can be concluded that the timing of the tax collection is subject to state legislative direction.
- The study data shows that the highest cost to implement Phase I is 33 cents per subscriber per month. Since this number is substantiated, 33 cents is an acceptable maximum rate for the state wireless E911 tax.
- If the FCC required that all the PSAPs be implemented at one time, or that the Phase I technology required the purchase of expensive equipment, it would be necessary to build a large dedicated fund before implementing Phase I. However, the data from the study shows that there is no compelling reason to build a large wireless E911 fund prior to the implementation of Phase I. There is no major equipment that has to be purchased for Phase I. Most of the costs are for 911 trunks to link the wireless switch to the E911 selective router, software upgrades, vendor costs and staff time. There is also no reason that all the PSAPs have to be implemented at once. Some PSAPs have few wireless 911 calls on an annual basis.
- If a large account is not built in advance of implementation, the wireless subscribers will have extra resources to purchase other wireless services, if they choose. This increases the revenues to the wireless carriers and also increases the state and local tax revenues that result from increased sales of services.
- If the estimated costs to implement and operate the Phase I service were known in advance, it would be possible to develop a statewide Phase I implementation plan

and correlate the Phase I service delivery and carrier cost recovery with the revenue collections.

- The counties will not be in the situation of ordering Phase I service without knowing the estimated costs.
- There is no guarantee that costs will be forthcoming by waiting until after the funding mechanism is in place. Other states have had trouble getting the costs after they imposed a tax for Phase I funding.

E. THE DEPARTMENT OF REVENUE POLICY RECOMMENDATIONS

If the Legislature chooses to fund Phase I with a wireless E911 tax, the Department of Revenue recommends that the Legislature provide guidance in three policy areas:

1. The payment of an administrative fee to the wireless carriers for collecting and remitting the state E911 tax.

It would be a departure from current policy to reimburse wireless carriers for the collection and remittance of the state E911 tax because the Legislature does not currently reimburse wireline companies for the collection and remittance of state wireline E911 taxes. Nor does the state reimburse other taxpayers for collection and remittance of retail sales taxes. This is an expense that the wireless carriers do recover in some other states.

2. A requirement that the wireless carriers divulge all information regarding costs including the cost caps for services purchased from vendors.

If the parties responsible for cost recovery oversight do not know the vendor caps that the companies have negotiated, then the cost reimbursement could exceed the actual costs, especially if those responsible for cost recovery oversight decide that reimbursement should be on a per subscriber basis. If there is a surplus, the surplus could inadvertently go to the wireless carriers rather than remain in the state E911 account.

The wireless carriers say that the FCC order limits them to recovering costs only. The Department agrees that the term cost-recovery does imply cost only. However, there is not a specific provision in the FCC order that mandates that the wireless carriers recover costs only. Nor are there any enforcement provisions in the FCC mandate to insure that the wireless carriers do recover costs only.

- 3. If the Legislature sets the tax rate at a maximum amount and authorizes the flexibility to change the rate as Phase I expenditures become known, specific guidance should be given as to the agency or entity that has the authority to adjust the tax rate.**

Typically the Legislature determines tax rates. For the state wireline E911 tax the Legislature authorized a maximum rate of 20 cents per subscriber per month and directed the Washington Utilities and Transportation Commission (WUTC) to determine the tax rate annually based on financial analysis of the wireline E911 implementation and operation expenditures.

If the Legislature chooses to authorize a similar mechanism for the wireless E911 tax, the Department recommends that the Legislature ensure that the wireless carriers will have confidentiality protection for proprietary data and that the agency or entity that the Legislature authorizes be appropriate for an unregulated industry.